

COMPLETE LISTING OF THE CLAIMS:

Claims 1-27 : (Canceled)

Claim 28 : (Previously Presented) A communications

arrangement comprising: one or more Local Area Networks (LANs); one or more gateway network elements connected to each LAN; and one or more further network elements which, together with the one or more gateway network elements, form at least a part of a routing area, the one or more gateway network elements providing access to its respective LAN and acting as an interface between the one or more further network elements and the one or more LANs, wherein the one or more further network elements each comprise an intermediate system (IS) according to IS-IS protocol, and the one or more gateway network elements and the one or more further network elements are configured such as to make the one or more further network elements appear as end systems as far as the rest of the communications arrangement is concerned, each further network element appearing to each other further network element as an IS within the routing area, the end systems being made known to the rest of the communications arrangement by link state protocol packets generated by the one or more gateway network elements.

Claim 29 : (Currently Amended) The communications

arrangement according to claim 28, in which ~~the or each~~ at least one of the one or more gateway network ~~element~~ elements has one or more digital communication channels (DCCs) connected to respective ones of said further network elements, each of the one or more DCCs being provided with manual end-system adjacencies for at least some of the further network elements, and wherein each of the one or more DCCs has its “external domain” attribute flag set TRUE.

Claim 30 : (Previously Presented) The communications arrangement according to claim 29, in which those further network elements which are directly connected to the or one of the gateway network elements by a DCC are configured as a Level 2 intermediate system and have their “external domain” attribute flag set TRUE for the circuit using said DCC, and in which said DCC is supplied with a length-zero reachable address prefix.

Claim 31 : (Previously Presented) The communications arrangement according to claim 30, in which the gateway network element has two DCCs each of which gives access to one of the further network elements on a corresponding DCC thereof, the further network elements being connected in a chain configuration so as to form a ring with the gateway network element.

Claim 32 : (Previously Presented) The communications arrangement according to claim 30, in which the gateway network element is connected to the further network elements by only one DCC.

Claim 33 : (Previously Presented) The communications arrangement according to claim 32, in which there is set up on said one gateway DCC a manual end-system adjacency for all the further network elements, the “external domain” attribute flag is set TRUE for that one DCC and for the corresponding DCC of the one of the further network elements which terminates the DCC at the other end thereof, and a length-zero prefix is set up on the corresponding DCC of the terminating further network element, said terminating further network element being configured as a Level 2 intermediate system.

Claim 34 : (Previously Presented) The communications arrangement according to claim 29, comprising a single gateway network element having one or

two channels provided with manual end-system adjacencies for all of the further network elements.

Claim 35 : (Previously Presented) The communications arrangement according to claim 29, in which there are two of the gateway network elements connected to respective ones of said one or more LANs, and in which a plurality of the one or more further network elements is connected between the two gateway network elements.

Claim 36 : (Previously Presented) The communications arrangement according to claim 35, in which each of the gateway network elements and the further network elements has two DCCs, a first DCC of one gateway network element being connected to a DCC of a first one of the further network elements, a second DCC of the same gateway network element being connected to a DCC of a second one of the further network elements, a first DCC of the other gateway network element being connected to a DCC of a third one of the further network elements, and a second DCC of the other gateway network element being connected to a DCC of a fourth one of the further network elements.

Claim 37 : (Previously Presented) The communications arrangement according to claim 36, in which each DCC of those further network elements which are directly connected to at least one of the gateway network elements has its “external domain” attribute flag set TRUE for a circuit using said DCC and has a reachable address prefix of length zero on the circuit connecting it to the gateway network element, and in which the first DCC of each gateway network element is set with manual end-system adjacencies for the first and second of the further network elements, and in which the second DCC of each gateway network element is set with manual end-system adjacencies for the third and fourth of the further network elements.

Claim 38 : (Previously Presented) The communications arrangement according to claim 29, in which the or each gateway network element comprises a static route record in which has been manually entered one or more ranges of consecutive system identifiers corresponding to the manual end-system adjacencies.

Claim 39 : (Previously Presented) The communications arrangement according to claim 29, in which a change on an intermediate system forwarding process is implemented such that, if there are two, equal-cost manual adjacencies matching a destination address of a given packet and one of these is associated with a circuit on which the packet was received, then the packet is forwarded onto another circuit.

Claim 40 : (Previously Presented) The communications arrangement according to claim 28, in which a message packet, which is generated or forwarded in the part of the routing area by one the further network elements and is destined for a network element outside said part of the routing area but in the same area as the further network elements, is not discarded by a Level 1 intermediate system handling the message packet if said intermediate system has access to an attached Level 2 intermediate system forming part of the routing area.

Claim 41 : (Previously Presented) The communications arrangement according to claim 28, in which a message packet, which is generated in the routing area or the part of the routing area defined by the gateway network element and further network elements and is destined for a network element outside the routing area or the part of the routing area, is not discarded by a Level 1 intermediate system handling the message packet if said intermediate system has access to a Level 2 intermediate system forming part of the routing area or the part of the routing area.

Claim 42 : (Previously Presented) The communications arrangement according to claim 28, in which the one or more further network elements comprise a peripheral domain.

Claim 43 : (Previously Presented) The communications arrangement according to claim 28, comprising a plurality of nodes including a first set consisting of the further elements and a second set excluding the further network elements, in which the second set comprises end systems (ES) and/or intermediate systems (IS), in which each node in the second set has a connection to every other node in the second set, and in which the connections only pass through nodes of the second set.

Claim 44 : (Previously Presented) The communications arrangement according to claim 43, in which all the further network elements lie in a single IS-IS area, and in which all the nodes of the second set which are directly connected to the one or more of the further network elements lie in the IS-IS area.

Claim 45 : (Previously Presented) The communications arrangement according to claim 43, in which the further network elements are connected to the nodes of the second set by more than one circuit; and in which each of the circuits provides access from at least some of the further network elements to all of the nodes of the second set.

Claim 46 : (Previously Presented) The communications arrangement according to claim 43, in which each further network element directly connected to a node of the second set comprises means for discarding IS-IS hello protocol data unit (IIH) packets and sequence number protocol data unit (SNP) packets received from a node of the second set.

Claim 47 : (Previously Presented) The communications

arrangement according to claim 46, in which each further network element directly connected to a node of the second set is configured as Level 2 IS and comprises means for monitoring a receipt of IS hello protocol data units (ISH) packets and for maintaining a length-zero reachable address prefix (RAP) for the circuit from the further network element to the node of the second set while the last received ISH packet is still valid.

Claim 48 : (Previously Presented) The communications

arrangement according to claim 47, in which each further network element comprises a network address, and in which each further network element directly connected to a node of the second set comprises means for generating end system hello protocol data unit (ESH) packets containing the addresses of all the further network elements of which it is aware.

Claim 49 : (Previously Presented) The communications

arrangement according to claim 48, in which each further network element directly connected to a node of the second set comprises means for detecting a change in a topology of a part of the communications arrangement made up of the further network elements and their interconnection, and means for sending, when no change is detected, the ESH packets to the nodes of the second set with a frequency the same as an average generation frequency of LSPs by the first set of further systems.

Claim 50 : (Previously Presented) The communications

arrangement according to claim 49, in which each further network element directly connected to a node of the second set comprises means for sending the ESH packets to the nodes of the second set as soon as a change is detected.

Claim 51 : (Previously Presented) The communications arrangement according to claim 50, in which the further network elements directly connected to a node of the second set comprise synchronous digital hierarchy (SDH) transmission equipment, in which the SDH transmission equipment comprises a Q-interface.

Claim 52 : (Previously Presented) The communications arrangement according to claim 51, in which a message packet, which is generated or processed by one of the further network elements and is destined for a node of the second set that belongs to the routing area the same as the further network element, is not discarded by a Level 1 intermediate system handling the message packet if said intermediate system has access to an attached Level 2 intermediate system in the first set.

Claim 53 : (Previously Presented) The communications arrangement according to claim 52, in which the communications arrangement forms a part of an SDH communications system.